EDUCATION AND THE CHALLENGES OF NEW DIGITAL EDUCATIONAL TECHNOLOGIES

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ABSTRACT: *The COVID-19 pandemic has significantly changed human society, even if only temporarily, reducing interactions to a strictly necessary level. Humanity has also been forced to mobilize to cope not only with unprecedented change, but also to manage its day-to-day activities differently. The vast majority of people live in houses, avoid each other, and have transferred their social life and activities online. The virtual life seems to become the new reality in many of the segments of everyday life.*

A new world looms on the horizon. One side of this possible world that must be a priority is education. In this reality based on social distancing, education has been transferred to online platforms. During the emergency period, the new challenges must be addressed by all those who educate and train, as they strive to ensure continued access to education. Teachers, pupils and students of all ages, but also parents, try a new type of socialization and interaction, to bring education to another level.

"During the quarantine period, the educational system had to adapt to a new reality emphasizing the need to invest in technology, resources, training, so that every child has access to education". (Bult, 2020)

KEYWORDS: *education; pandemic period; digital educational technologies; challenges.*
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1. EDUCATION DURING THE PANDEMIC

During the difficult period that everyone went through, governments, schools, universities and teachers resorted to various solutions to effectively reach children and students in isolation (Nedelcu, 2020):

- The appearance of some documents during this period, through which it was wanted to ensure a minimum of conceptual foundation for the forced school to take place from home. For example, the "Guide to distance learning", published in Poland, describes the responsibilities of different educational actors (teachers, principals, counsellors), is detailed and operational. The same happens in the case of the Methodology regarding the Remote Continuation of the Educational Process in Quarantine Conditions", approved in the Republic of Moldova. The document lists principles, attributions, describes concepts. It also makes a clear distinction between distance learning (an alternative form of education that ensures the

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continuation of the educational process in conditions of self-isolation, through various distance communication tools) and distance communication (set of actions and mediated processes). of communication technologies).

- Supporting home learning through specialized platforms for online learning and official sites that centralize initiatives in this field. The possible options to access are multiple, and the specialized platforms are diverse.
- Reorganization of assessment procedures: adjustment of exam schedules, cancellation or rescheduling of exams.

Effective teaching practices, valid in face-to-face interactions, must also be kept online (Carlier, 2004). A good teacher is a good teacher no matter how he conveys his ideas. There are other forms of quality assurance in teaching and in promoting didactic interactions, especially in situations where access to technology is difficult, if not impossible (Blaga, 2014). Therefore, it is important to mention that home schooling does not only mean digital platforms, no matter how technically efficient they may be; equally important are the learning activities managed by telephone or those that end up printed to pupils/students without access to the Internet.

Just being online doesn't automatically mean efficiency; however, sophisticated the digital solutions may be, they cannot save unconvincing teaching options, communication disabilities, poorly crafted or poorly structured educational content (Evin, 2007)! Technology is not a teacher instead of a teacher, it is useful when it is integrated in a well-organized teaching approach, carefully planned, masterfully conducted, with controlled improvisations, with intentionally set goals and adequate communication (Eady & Lockyer, 2013).

It is important that the home school is perceived as an exceptional state, placed on a background of tension and uncertainty. It is not a distance education as it is written in the textbook, it cannot demand response reactions that ignore the emotions of those involved in the respective learning processes. In this challenging situation, the machines that mediate didactic communication are machines, and people are people!

2. DIGITAL EDUCATION IN EUROPE

In early June 2020, the Council of the European Union recognized the importance of digital technologies in transforming the European economy and society. Accelerating Europe's digital transformation will be a key component of the EU's response to the economic crisis caused by the COVID-19 pandemic. This goal involves the development of emerging technologies such as artificial intelligence (AI) and cloud computing.

Digitization brings a number of new possibilities, but also presents important social challenges. Digital technologies can increase flexibility and creativity and help improve efficiency and learning outcomes.

Technological integration for educational purposes has lagged behind in all Member States of the European Union. Divergences persist in the provision of digital infrastructure and equipment, as well as the presence of digital skills.

The European COVID-19 pandemic and the national measures needed to combat the spread of the virus can cause significant disruption to education, training and mobility activities for students, teachers and educators in the European Union.

All education sectors were concerned with two important issues:

– how learning and teaching can be organized during the pandemic caused by COVID-19;

– how marginalized groups, from rural and remote areas, can be included, which face a series of difficulties: lack of connectivity, lack of equipment, lack of skills and lack of trust of teachers and students.

Measures to prevent new outbreaks have forced schools, universities, adult education centers and other educational institutions to suspend all face-to-face learning offerings. Members of the European Association for Adult Education across Europe noted that learning barriers are reinforced by the rules of "social distance" and the lack of digital skills in accessing learning offerings.

In this context, the European Commission has launched an action plan for digital education, which sets out a series of measures to support Member States and educational institutions in developing digital skills in educators and learners, so that to be able to obtain the maximum benefits.

The Digital Education Action Plan (2021-2027) contributes, among other actions, to the European Commission's desire to create a European Education Area by 2027 (European Commission, 2021a).

The Digital Education Action Plan is a renewed European Union policy initiative to support the sustainable and effective adaptation of EU Member States' education and training systems to the digital age.

The Digital Education Action Plan proposes the following actions for the period 2021-2027 (European Commission, 2021a):

- *Priority 1: Fostering the development of a high-performing digital education ecosystem* (European Commission, 2021a):
  - Action 1: Strategic Dialogue with Member States on the enabling factors for successful digital education
  - Action 2: Council Recommendation on blended learning for primary and secondary education
  - Action 3: European Digital Education Content Framework
  - Action 4: Connectivity and digital equipment for education
  - Action 5: Digital transformation plans for education and training institutions
  - Action 6: Artificial intelligence and data usage in education and training
- *Priority 2: Enhancing digital skills and competences for the digital transformation* (European Commission, 2021a):
  - Action 7: Common guidelines for teachers and educators to foster digital literacy and tackle disinformation through education and training
  - Action 8: Update the European Digital Competence Framework to include AI and data-related skills
  - Action 9: European Digital Skills Certificate (EDSC)
  - Action 10: Council recommendation on improving the provision of digital skills in education and training
  - Action 11: Cross-national collection of data on student digital skills and introduce an EU target for student digital competence
  - Action 12: Digital Opportunity Traineeships
  - Action 13: Women’s participation in STEM

• Digital Education Hub

To develop this plan, in September 2020 the European Commission launched an open public consultation on the new action plan. The aim was to gather the views of citizens, institutions and organizations on their experiences and expectations during the COVID-19 crisis (both now and in the recovery period), as well as their views on the future of digital education.

At the same time, the European Commission has made available various online and offline tools that can be used to (European Commission, 2021b):

- to connect teachers and pupils / students when they are in different places;
- access information and platforms that are not normally available at home or in the educational institution;
- to support the continuous professional development of teachers in a flexible way.

In order to ensure continuity in educational activities, the European Commission has ensured online access to various teaching materials, either using online platforms or by accessing projects specific to EU-funded educational activities.

The online platforms that can be accessed by teachers in the European Union are the following (European Commission, 2021b):

- School Education Gateway - online catalog containing teaching materials and training courses for teachers and other stakeholders in the school education sector in Europe (available in 23 European languages).
- eTwinning - a collaborative platform that allows teachers to communicate, exchange resources, take professional development courses and create projects together (available in 30 languages).
- Learning space - Teaching materials, including online games, to help students of all age groups discover the EU.
- SALTO-YOUTH - online catalog of training tools that promote and support youth activities.
- Electronic Platform for Adult Education in Europe (EPALE) - an open and multilingual online community that connects professionals in the field of adult education in Europe, in order to contribute to increasing the quality and diversity of the offer in the field.
- Erasmus + virtual exchanges - exploring innovative online virtual exchange opportunities for young people in Europe and the southern Mediterranean.
- European Institute of Innovation and Technology (EIT) - resources developed by the EIT to support quality online training in higher education.
- EU Programming Week - EU Programming Week is a local initiative, supported by the European Commission. Its aim is to facilitate everyone's access to coding, programming, computational thinking and digital literacy techniques in a fun and engaging way (in 29 languages).

Also in order to develop digital education, the European Investment Fund (EIF) and the European Commission launched in April 2020 a new pilot project for the development of skills and education in Europe. It aims to improve access to finance for individuals and organizations wishing to invest in skills and education.

The € 50 million pilot project will support funding for students and trainees, for companies investing in the training of their employees and for organizations providing

training and education services. Eligible students and businesses will be able to access different types of funding (loans, deferred payments, etc.) through financial institutions, universities and vocational training centers, guaranteed by the EU.

The aim of this initiative is to become a key European financial instrument after 2020, included in the next EU Multiannual Financial Framework (2021-2027).

3. DIGITAL EDUCATION IN ROMANIA

In order to be able to align ourselves with the fast pace with which the world is changing, the traditional teaching methods in Romanian education must be changed with new ones, which will promote the competences and abilities of pupils and students, the flexibility of thinking (Voinea, 2019).

The COVID-19 epidemic revealed problems in the Romanian education system, all the measures taken trying to transform the adopted emergency solution - school closure - into a functional learning context so as not to miss a school / university year spent more than half.

In pre-university education, the Ministry of Education and Research has taken a bold step and wants to prepare teachers for online teaching, so that it is ready for other situations in which schools and universities will have to close, as happened in period of emergency. Thus, in the curriculum of the initial psycho-pedagogical training programs, the disciplines of didactic training and specialized practice for the development of skills for integrating technology in the teaching-learning-evaluation process in pre-university education will be introduced. A collection of resources needed to continue learning in the online environment, grouped on a dedicated portal, is already available to teachers, students and parents. The Ministry of Education also enshrines the obligation of students to participate in online courses and asks parents to ensure the necessary conditions.

On the other hand, there are a number of more concrete issues, raised by several voices of civil society, such as: Internet access in rural or remote areas, the financial capacity of parents and teachers, the possibility of supervising children, computer knowledge, logistical support that can be provided by schools. Romania is not the only country that has faced problems with the closure of schools and the move to the virtual environment.

According to a study conducted by the Orange Foundation in 2020, in Romania, Zoom, WhatsApp, Google Classroom and Facebook were the most used resources in distance teaching during the course suspension. 36% of the participating teachers and principals said that they had taken courses on the use of digital tools. Only one in five teachers say they used a laptop before taking classes, and 19% say they use video projectors. Only one in ten used digital sites and platforms and 7% used digital textbooks in the classroom (Tudorache, 2020).

University education, due to the severity of the coronavirus pandemic, also went through one of the most difficult periods of operation. All universities carried out teaching activities with students only online, the entire activity being paralyzed and employees sent on leave. In this unfavorable context, higher education institutions were in a state of emergency. Economically, universities will certainly have financial problems, diminished budgets, less money allocated to investments and will hardly be able to ensure full payment of employees' salaries. All in a scenario related to a long-term evolution of the virus that is wreaking havoc around the world.

In this context, in university education, in 2020, the Ministry of Education together with the National Council of Rectors, the Alma Mater Union and student associations established the framework for activities in the Romanian university system, in the context of the COVID-19 pandemic (Ministry of Education, 2020).

The universities, based on the university autonomy, proposed the partial organization in online system of the semester, year and completion exams. They also reorganized their assessment procedures, adjusting exam schedules, canceling or rescheduling exams. Even doctoral and habilitation theses have lost their ceremonial ritual of face-to-face presentation and moved into the electronic world. In exceptional situations, which required the physical presence of the student, the universities established and communicated the conduct of the exam, in safe conditions for students and teachers.

Universities have pledged to support students and teachers in the online teaching process. Each higher education institution will provide material resources to facilitate equitable access to education.

4. THE FUTURE IN EDUCATION

In the age of digital technology and global change, the education of the future needs new skills and competencies to meet the challenges of the future.

Virtual Reality, Augmented Reality, Big Data will characterize the education of the future. The future of education will involve a lot of change and innovation, and progress in this area is imminent (Business Day, 2018).

If laptops and tablets have already entered classrooms, in the future schools will become more attractive through the use of new technologies: lessons taught with the help of virtual reality glasses, augmented reality instead of classic textbooks.

The future will also mean new integrated platforms and applications, which will help students in their learning process. As discussions about the disappearance of physical schools are becoming more common, such platforms will be useful for those who will be able to take online courses at a distance. When these courses are live broadcasts, they will be able to remain available to students for a long period of time so that they can be used in learning.

In the age of digital technologies and new discoveries in the field of artificial intelligence, the first intelligent laboratories appear in Romania - SMART LAB 4.0. (Voinea, 2019), Which contain interactive whiteboards, 3D printers and scanners, educational robots, but the implementation of the project also involves teacher training.

It is very clear that the Romanian school will have to align with new digital technologies, because the world is changing, and children need to be prepared for the jobs of the future.

5. CONCLUSIONS

New information and communication technologies are accelerating the pace of change and increasing the need for education, subjecting it to an increased flow of information. These changes have an important impact on education systems and on vocational training systems. Participants in this educational and training paradigm call for learning environments supported by well-designed resources (Armstrong, 2006). In this context, e-

learning (Blaga & Gabor, 2016) has become one of the main educational forms of human resources training in business (Blaga, 2018), ensuring the necessary conditions for the generalization of modern communication being imperative (Lazăr and Bunda, 2012).

The biggest challenge of online learning is not the tools, but reconnecting with students who are no longer constrained and controlled by the rigid framework of the school, understanding the needs and dynamics of the world we live in, redefining the role of teachers in teaching and evaluating a predefined scenario in people who connect with students, understand their needs and facilitate their authentic learning.

Online schooling during the isolation period is a moment of reflection and reform for Romanian education (Manea, 2020). Forced digitization brings to the fore a number of challenges that are not necessarily related to the technological side, but which are accentuated and highlighted by it.

Finally, the question arises whether educational systems have managed to maintain their functionality and achieve their goals. Post-pandemic analyzes and research are likely to show clearly whether the stability and measures taken have been strong enough to support learning or not.

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